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=> d His

     (FILE 'HOME' ENTERED AT 08:38:29 ON 28 APR 2007)

     FILE 'CAPLUS, MEDLINE' ENTERED AT 08:39:41 ON 28 APR 2007
L1           228 S HYALURON? (P) SPINAL
L2            13 S HYALURON? (P) SPINAL CORD INJUR?
L3             3 S L2 AND ?MOLECUL?
L4            10 S L2 NOT L3
L5           215 S L1 NOT L2
L6             1 S L5 AND NERVE TRAUMA?
L7           214 S L5 NOT L6
L8             0 S L7 AND NERV? TRAUMA?
L9             0 S L7 AND NERV? DISORDER?
L10            0 S L7 AND NERV? DAMAGE?
L11            0 S L7 AND NERVE DAMAGE?
L12           69 S L7 AND NERVE?
L13            7 S L12 AND LOW
L14           62 S L12 NOT L13
L15           12 S L14 AND ADMINIST?
L16           50 S L14 NOT L15
L17           20 S L16 AND HYALURONIC
L18           74 S LOW MOLECULAR WEIGHT HYALUR?
L19           36 S LOW MOLECULAR WEIGHT HYALURONIC ACID?
L20            0 S L19 AND DISACCHAR?
L21            0 S L19 AND TETRASACCHAR?
L22            0 S L19 AND 2500
L23            1 S L19 AND 1000
L24           35 S L19 NOT L23
L25           38 S L18 NOT L19
L26           74 S LOW-MOLECULAR WEIGHT HYALUR?
L27           74 S LOW-MOLECULAR-WEIGHT HYALUR?
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L6            1 S L5 AND NERVE TRAUMA?
L7          214 S L5 NOT L6
L8            0 S L7 AND NERV? TRAUMA?
L9            0 S L7 AND NERV? DISORDER?
L10           0 S L7 AND NERV? DAMAGE?
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L14          62 S L12 NOT L13
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L16          50 S L14 NOT L15
L17          20 S L16 AND HYALURONIC
L18          74 S LOW MOLECULAR WEIGHT HYALUR?
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L14          62 S L12 NOT L13
L15          12 S L14 AND ADMINIST?
L16          50 S L14 NOT L15
L17          20 S L16 AND HYALURONIC
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L20           0 S L19 AND DISACCHAR?
L21           0 S L19 AND TETRASACCHAR?
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L24          35 S L19 NOT L23
L25          38 S L18 NOT L19
L26          74 S LOW-MOLECULAR WEIGHT HYALUR?
L27          74 S LOW-MOLECULAR-WEIGHT HYALUR?
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L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1027010 CAPLUS
DOCUMENT NUMBER: 143:321134
TITLE: Cloning, recombinant expression, characterization, and analytical and therapeutic uses of chondroitinase ABC I from Proteus vulgaris
INVENTOR(S): Prabhakar, Vikas; Capila, Ishan; Raman, Rahul; Bosques, Carlos; Pojasek, Kevin; Sasisekharan, Ram
PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA
SOURCE: PCT Int. Appl., 243 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005087920	A2	20050922	WO 2005-US8194	20050310
WO 2005087920	A3	20060202		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2558984	A1	20050922	CA 2005-2558984	20050310
US 2006078959	A1	20060413	US 2005-78915	20050310
EP 1737954	A2	20070103	EP 2005-735137	20050310
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				

PRIORITY APPLN. INFO.:

US 2004-552232P	P	20040310
US 2004-578917P	P	20040610
US 2004-625052P	P	20041103
WO 2005-US8194	W	20050310

AB The invention relates to chondroitinase ABC I and uses thereof. In particular, the invention relates to recombinant and modified chondroitinase ABC I from Proteus vulgaris, their production and their uses. The sub-cloning of the chondroitinase ABC I from P. vulgaris and its recombinant expression in E. coli are described. This recombinant chondroitinase ABC I was also examined biochem., providing the first conclusive evidence of the residues that constitute the enzyme active site. By coupling kinetic anal. of site-directed mutants of the active site amino acids with the construction of theor. enzyme-substrate structural complexes to interpret the effects of the mutants, the detailed roles of the 4 active site amino acids (His501, Tyr508, Glu653, and Arg560) have been outlined. The chondroitinase ABC I enzymes of the invention are useful for a variety of purposes, including degrading and analyzing polysaccharides such as glycosaminoglycans (GAGs). These GAGs can include chondroitin sulfate, dermatan sulfate, unsulfated chondroitin and hyaluronan. The chondroitinase ABC I enzymes can also be used in therapeutic methods such as promoting nerve regeneration, promoting stroke recovery, treating spinal cord injury, treating epithelial disease, treating infections and treating cancer.

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:160994 CAPLUS

DOCUMENT NUMBER: 142:254633
TITLE: Compositions and methods using heparin mimetics for inhibiting slit protein and glypican interactions, and use for promoting axonal regeneration and treating spinal cord injury
INVENTOR(S): Margolis, Richard U.
PATENT ASSIGNEE(S): New York University, USA; Univ New York
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005016285	A2	20050224	WO 2004-US26562	20040813
WO 2005016285	A3	20051103		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-494906P P 20030813

AB The invention discloses a composition for inhibiting slit protein and glypican interactions which include an effective amount of a heparin mimetic. A pharmaceutical composition for inhibiting slit protein and glypican interactions includes an effective amount of a heparin mimetic and a pharmaceutical carrier. A composition for promoting axonal regeneration includes an effective amount of a heparin mimetic. A therapeutic composition for inhibiting slit protein and glypican interaction or promoting axonal regeneration includes an effective amount of a heparin mimetic. Also disclosed are various methods for inhibiting slit protein and glypican interaction, promoting axonal regeneration, and treating spinal cord injury.

L3 ANSWER 3 OF 3 MEDLINE on STN
ACCESSION NUMBER: 2005445754 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15892130
TITLE: Disruption of the hyaluronan-based extracellular matrix in spinal cord promotes astrocyte proliferation.
AUTHOR: Struve Jaime; Maher P Colby; Li Ya-Qin; Kinney Shawn; Fehlings Michael G; Kuntz Charles 4th; Sherman Larry S
CORPORATE SOURCE: Division of Neuroscience, Oregon National Primate Research Center, Oregon Health and Science University, Beaverton, Oregon, USA.
CONTRACT NUMBER: RR00163 (NCRR)
SOURCE: Glia, (2005 Oct) Vol. 52, No. 1, pp. 16-24.
Journal code: 8806785. ISSN: 0894-1491.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200608
ENTRY DATE: Entered STN: 23 Aug 2005

Last Updated on STN: 10 Aug 2006
Entered Medline: 9 Aug 2006

AB Astrocyte proliferation is tightly controlled during development and in the adult nervous system. In the present study, we find that a high-molecular-weight (MW) form of the glycosaminoglycan hyaluronan (HA) is found in rat spinal cord tissue and becomes degraded soon after traumatic spinal cord injury. Newly synthesized HA accumulates in injured spinal cord as gliosis proceeds, such that high-MW HA becomes overabundant in the extracellular matrix surrounding glial scars after 1 month. Injection of hyaluronidase, which degrades HA, into normal spinal cord tissue results in increased numbers of glial fibrillary acidic protein (GFAP)-positive cells that also express the nuclear proliferation marker Ki-67, suggesting that HA degradation promotes astrocyte proliferation. In agreement with this observation, adding high- but not low-MW HA to proliferating astrocytes in vitro inhibits cell growth, while treating confluent, quiescent astrocyte cultures with hyaluronidase induces astrocyte proliferation. Collectively, these data indicate that high-MW HA maintains astrocytes in a state of quiescence, and that degradation of HA following CNS injury relieves growth inhibition, resulting in increased astrocyte proliferation.

L4 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:736116 CAPLUS
DOCUMENT NUMBER: 145:152833
TITLE: Hyaluronic acid derivative and neuronal stem cells for spinal cord injury and peripheral nerve transection regeneration
INVENTOR(S): Pavesio, Alessandra; Vescovi, Angelo; Gelain, Fabrizio; Verga, Maurizio
PATENT ASSIGNEE(S): Fidia Advanced Biopolymers S.r.l., Italy
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006077085	A2	20060727	WO 2006-EP398	20060118
WO 2006077085	A3	20060921		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: US 2005-644587P P 20050119
AB A biomaterial for the treatment of spinal cord or peripheral nerve injury is described, obtainable by: (a) treating a hyaluronic acid derivative with a coating solution promoting neuronal stem cells adhesion, branching and differentiation; (b) contacting isolated neuronal stem cells with the hyaluronic acid derivative obtained from step (a) and culturing and expanding the absorbed cells in the presence of growth or neurotrophic factors selected from βFGF (basic fibroblast growth factor), CNTF (ciliary neurotrophic factor), BDNF (brain derived neurotrophic factor) and GDNF (glial derived neurotrophic factor) or mixts. thereof.

L4 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1338708 CAPLUS
DOCUMENT NUMBER: 144:218955
TITLE: Fast-gelling injectable blend of hyaluronan and methylcellulose for intrathecal, localized delivery to the injured spinal cord
AUTHOR(S): Gupta, Dimpy; Tator, Charles H.; Shoichet, Molly S.
CORPORATE SOURCE: Department of Chemical Engineering and Applied Chemistry, University of Toronto, Toronto, ON, M5S 3E5, Can.
SOURCE: Biomaterials (2006), 27(11), 2370-2379
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Strategies for spinal cord injury repair are limited, in part, by poor drug delivery techniques. A novel drug delivery system (DDS) is being developed in the authors' laboratory that can provide localized release of growth factors from an injectable gel. The gel must

be fast-gelling, non-cell adhesive, degradable, and biocompatible as an injectable intrathecal DDS. A gel that meets these design criteria is a blend of hyaluronan and methylcellulose (HAMC). Unlike other injectable gels, HAMC is already at the gelation point prior to injection. It is injectable due to its shear-thinning property, and its gel strength increases with temperature In vivo rat studies show that HAMC is biocompatible within the intrathecal space for 1 mo, and may provide therapeutic benefit, in terms of behavior, as measured by the Basso, Beattie and Bresnahan (BBB) locomotor scale, and inflammation. These data suggest that HAMC is a promising gel for localized delivery of therapeutic agents to the injured spinal cord.

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:1124574 CAPLUS
DOCUMENT NUMBER: 142:69196
TITLE: Fusion proteins comprising proteins with proteoglycan degrading domain for the treatment of spinal cord injuries and related disorders of CNS
INVENTOR(S): Gruskin, Elliott A.; Caggiano, Anthony O.; Iaci, Jennifer; Zimber, Michael P.; Roy, Gargi
PATENT ASSIGNEE(S): Acorda Therapeutics, Inc., USA
SOURCE: PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004110359	A2	20041223	WO 2004-US15661	20040517
WO 2004110359	A9	20060216		
WO 2004110359	A3	20060817		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004247025	A1	20041223	AU 2004-247025	20040517
CA 2525782	A1	20041223	CA 2004-2525782	20040517
EP 1646353	A2	20060419	EP 2004-776038	20040517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				

PRIORITY APPLN. INFO.:

US 2003-471236P	P	20030516
US 2003-471239P	P	20030516
US 2003-471300P	P	20030516
US 2003-474372P	P	20030529
US 2003-471240P	P	20030516
WO 2004-US15661	W	20040517

AB The present invention relates to fusion proteins comprising proteins with proteoglycan degrading domain for the treatment of spinal cord injuries and related disorders of the central nervous system. Specifically, the invention relates to compns. capable of use in the treatment of spinal cord injuries and related disorders of the central nervous system (CNS), and in particular, compns. including proteoglycan degrading mols. and compns. capable of blocking and/or over coming the activity of neuronal

growth inhibitory mols., as well as fusion proteins which includes a proteoglycan degrading domain and a domain capable of blocking and or over coming the activity of neuronal growth inhibitory mols.

L4 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:428641 CAPLUS
DOCUMENT NUMBER: 137:744
TITLE: Pharmaceutical composition and method for treatment of brain injury, spinal cord injury, stroke, neurodegenerative disease and other conditions
INVENTOR(S): Pekny, Milos
PATENT ASSIGNEE(S): Swed.
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002043654	A2	20020606	WO 2001-SE2656	20011130
WO 2002043654	A3	20020906		
WO 2002043654	A8	20040401		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002023170	A5	20020611	AU 2002-23170		20011130
PRIORITY APPLN. INFO.:			SE 2000-4455	A	20001201
			WO 2001-SE2656	W	20011130

AB Disclosed is a pharmaceutical composition comprising a substance that upon administration to a patient leads to an inhibition of extension of cellular processes of astrocytes and/or a retraction of said cellular processes. Disclosed is also use of said substance for the production of a pharmaceutical composition for treatment of a condition selected from the group consisting of brain injury, spinal cord injury , stroke, neurodegenerative diseases, neuronal and/or synaptic loss associated with ageing, disorders of the brain associated with ageing and diabetic retinopathy, and also a method for treatment of said conditions wherein said substance is administered to a patient. Examples substances are quercetin, endothelins, hyaluronectin, antibodies, and glycolipids.

L4 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:672420 CAPLUS
DOCUMENT NUMBER: 131:296846
TITLE: Enhanced affinity hyaluronan-binding peptides
INVENTOR(S): Turley, Eva A.
PATENT ASSIGNEE(S): Cangene Corporation, Can.
SOURCE: Eur. Pat. Appl., 60 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 950708	A2	19991020	EP 1998-310454	19981218
EP 950708	A3	20000126		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2237051	A1	19990619	CA 1998-2237051	19980708
US 6271344	B1	20010807	US 1998-210896	19981216
US 2004034201	A1	20040219	US 2001-883375	20010619
PRIORITY APPLN. INFO.:			US 1997-68285P	P 19971219
			US 1998-210896	A3 19981216

AB Novel hyaluronan-binding peptides are provided using phage display technol. with high hyaluronic acid binding affinity (nanomolar range) than nonomeric and decameric peptides previously described. The peptides comprise the sequences TMTRPHPHKRQLVLS and STMMSRSHKTRSHH, or the latter with a Cys residue inserted at position 13 or a C-terminal valine. The peptide exhibit effects on cell locomotion (focal adhesion formation) and protein tyrosine phosphorylation, and on wound repair in vitro. DNA sequences are provided for expression of the peptides in Escherichia coli or Streptomyces lividans. The peptides are useful in preventing and treating disorders associated with altered tissue levels of hyaluronan or RHAMM (receptor for hyaluronan-mediated mobility), including cancer, inflammatory and autoimmune disorders, and fibrotic disorders associated with tissue trauma.

L4 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:331335 CAPLUS
DOCUMENT NUMBER: 131:720
TITLE: Spinal perfusates containing hyaluronic acids
INVENTOR(S): Atsuta, Hiroshi; Kobayashi, Tetsuya; Iwahara, Toshihito; Sato, Masaki
PATENT ASSIGNEE(S): Seikagaku Kogyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11140103	A	19990525	JP 1997-304570	19971106
PRIORITY APPLN. INFO.:			JP 1997-304570	19971106

AB Spinal perfusates, useful in operation and treatment of spinal cord injuries, comprise aqueous solns. containing hyaluronic acid or its salts. A spinal perfusate comprising phosphate buffer saline containing 0.4% Na hyaluronate (I) (weight-average mol. weight 890,000; containing 0.006 EU/10 mg endotoxin, 0.005% S, 4.6 ppm Fe, 0.01% protein) was applied to mice for 3 h to show .apprx.40% recovery of spinal cord injury, vs. .apprx.25%, without I.

L4 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1993:509010 CAPLUS
DOCUMENT NUMBER: 119:109010
TITLE: Ganglioside GM1 for treatment of spinal cord injury
INVENTOR(S): Toffano, Gino; Leon, Alberta; Massarotti, Marino
PATENT ASSIGNEE(S): Fidia S.p.A., Italy
SOURCE: Eur. Pat. Appl., 17 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 548406	A1	19930630	EP 1991-122324	19911227
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
US 2003153517	A1	20030814	US 2002-125810	20020418
US 6620793	B2	20030916		
PRIORITY APPLN. INFO.:			IT 1991-PD234	A 19911223
			US 1992-821059	B1 19920116
			US 1995-443761	B1 19950518
			US 1997-957784	B1 19971024
			US 2000-564384	A1 20000427

AB Ganglioside GM1 (e.g. sodium salt of monosialotetrahexosylganglioside GM1) is administered at a dose of 100-500 mg/day for treating spinal cord injury within 72 h of injury occurrence. Addnl. drug, i.e. methylprednisolone or ester of methylprednisolone with hyaluronic acid, is combined for the same therapeutic purpose.

L4 ANSWER 8 OF 10 MEDLINE on STN

ACCESSION NUMBER: 2007131755 MEDLINE
DOCUMENT NUMBER: PubMed ID: 17330580
TITLE: Influence of cross-linked hyaluronic acid hydrogels on neurite outgrowth and recovery from spinal cord injury.
AUTHOR: Horn Eric M; Beaumont Michael; Shu Xiao Zheng; Harvey Adrian; Prestwich Glenn D; Horn Kris M; Gibson Alan R; Preul Mark C; Panitch Alyssa
CORPORATE SOURCE: Harrington Department of Bioengineering, Arizona State University, Tempe, USA.
CONTRACT NUMBER: 2 R01 DC04336 (NIDCD)
SOURCE: Journal of neurosurgery. Spine, (2007 Feb) Vol. 6, No. 2, pp. 133-40.
Journal code: 101223545. ISSN: 1547-5654.
PUB. COUNTRY: United States
DOCUMENT TYPE: (IN VITRO)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, N.I.H., EXTRAMURAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
(RESEARCH SUPPORT, U.S. GOV'T, NON-P.H.S.)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200703
ENTRY DATE: Entered STN: 3 Mar 2007
Last Updated on STN: 14 Mar 2007
Entered Medline: 13 Mar 2007

AB OBJECT: Therapies that use bioactive materials as replacement extracellular matrices may hold the potential to mitigate the inhibition of regeneration observed after central nervous system trauma. Hyaluronic acid (HA), a nonsulfated glycosaminoglycan ubiquitous in all tissues, was investigated as a potential neural tissue engineering matrix. METHODS: Chick dorsal root ganglia were cultured in 3D hydrogel matrices composed of cross-linked thiol-modified HA or fibrin. Samples were cultured and images were acquired at 48-, 60-, and 192-hour time points. Images of all samples were analyzed at 48 hours of incubation to quantify the extent of neurite growth. Cultures in crosslinked thiolated HA exhibited more than a 50% increase in neurite length compared with fibrin samples. Furthermore, cross-linked thiolated HA supported neurites for the entire duration of the culture period, whereas fibrin cultures exhibited collapsed and degenerating extensions beyond 60 hours. Two concentrations of the thiolated HA (0.5 and 1%) were then placed at the site of a complete thoracic spinal cord transection in rats. The ability of the polymer to promote regeneration was tested using motor evoked potentials, retrograde axonal labeling, and behavioral assessments. There were no differences in any of the parameters between rats treated with the polymer and controls. CONCLUSIONS: The use of a cross-linked HA scaffold promoted robust neurite outgrowth. Although there was no benefit from the

polymer in a rodent spinal cord injury model, the findings in this study represent an early step in the development of semisynthetic extracellular matrice scaffolds for the treatment of neuronal injury.

L4 ANSWER 9 OF 10 MEDLINE on STN
ACCESSION NUMBER: 2005687822 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16325904
TITLE: Fast-gelling injectable blend of hyaluronan and methylcellulose for intrathecal, localized delivery to the injured spinal cord.
AUTHOR: Gupta Dimpy; Tator Charles H; Shoichet Molly S
CORPORATE SOURCE: Department of Chemical Engineering and Applied Chemistry, University of Toronto, 200 College Street, Toronto, Ont., Canada.
SOURCE: Biomaterials, (2006 Apr) Vol. 27, No. 11, pp. 2370-9. Electronic Publication: 2005-12-01. Journal code: 8100316. ISSN: 0142-9612.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200604
ENTRY DATE: Entered STN: 28 Dec 2005
Last Updated on STN: 21 Apr 2006
Entered Medline: 20 Apr 2006

AB Strategies for spinal cord injury repair are limited, in part, by poor drug delivery techniques. A novel drug delivery system (DDS) is being developed in our laboratory that can provide localized release of growth factors from an injectable gel. The gel must be fast-gelling, non-cell adhesive, degradable, and biocompatible as an injectable intrathecal DDS. A gel that meets these design criteria is a blend of hyaluronan and methylcellulose (HAMC). Unlike other injectable gels, HAMC is already at the gelation point prior to injection. It is injectable due to its shear-thinning property, and its gel strength increases with temperature. In vivo rat studies show that HAMC is biocompatible within the intrathecal space for 1 month, and may provide therapeutic benefit, in terms of behavior, as measured by the Basso, Beattie and Bresnahan (BBB) locomotor scale, and inflammation. These data suggest that HAMC is a promising gel for localized delivery of therapeutic agents to the injured spinal cord.

L4 ANSWER 10 OF 10 MEDLINE on STN
ACCESSION NUMBER: 80124586 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7355381
TITLE: Effect of hyaluronidase on acute spinal cord injury.
AUTHOR: Magness A P 2nd; Barnes K L; Ferrario C M; Cox W; Dohn D F
SOURCE: Surgical neurology, (1980 Feb) Vol. 13, No. 2, pp. 157-9. Journal code: 0367070. ISSN: 0090-3019.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198004
ENTRY DATE: Entered STN: 15 Mar 1990
Last Updated on STN: 6 Feb 1998
Entered Medline: 25 Apr 1980

AB Three control and five experimental dogs were subjected to 500 gm-cm injury of the midthoracic spinal cord by the weight dropping technique. Five hundred units per kilogram of hyaluronidase injected intravenously 20 minutes after injury in the experimental animals did not alter the loss of dorsal column evoked potentials (nonaveraged) or improve the pathological

results up to three hours. These results imply that hyaluronidase will not significantly alter the functional outcome of trauma of the spinal cord in dogs.

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:817718 CAPLUS
DOCUMENT NUMBER: 141:307584
TITLE: Remedy for nerve damage containing glucuronic acid and/or N-acetylglucosamine-containing low-molecular weight saccharides
INVENTOR(S): Kato, Tadahiko; Asari, Akira
PATENT ASSIGNEE(S): Seikagaku Corporation, Japan
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004084912	A1	20041007	WO 2004-JP4240	20040325
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004224510	A1	20041007	AU 2004-224510	20040325
CA 2519797	A1	20041007	CA 2004-2519797	20040325
EP 1611893	A1	20060104	EP 2004-723399	20040325
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK				
CN 1794999	A	20060628	CN 2004-80014299	20040325
US 2006135439	A1	20060622	US 2005-550998	20051024

PRIORITY APPLN. INFO.: JP 2003-83831 A 20030325
WO 2004-JP4240 W 20040325

AB It is intended to provide a remedy for nerve damage caused by spinal injury, nerve trauma or the like which contains, as the active ingredient, a low-mol. weight saccharide at least having glucuronic acid and/or N-acetylglucosamine as the constituting sugar(s) or a pharmaceutically acceptable salt thereof. Preferably, a remedy for nerve damage which contains, as the active ingredient, a low-mol. weight hyaluronic acid (still preferably hyaluronic acid disaccharide to hyaluronic acid 2500-saccharide, still preferably hyaluronic acid disaccharide to hyaluronic acid 50-saccharide, particularly preferably hyaluronic acid tetrasaccharide) or a pharmaceutically acceptable salt thereof. The effect of hyaluronic acid tetrasaccharide (HA4) in spiral injury model rats was examined

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:391465 CAPLUS
DOCUMENT NUMBER: 136:391070
TITLE: Crosslinked hyaluronic acid-laminin gels and use thereof in cell culture and medical implants
INVENTOR(S): Shahar, Abraham; Nevo, Zvi; Rochkind, Shimon
PATENT ASSIGNEE(S): N.V.R. Labs BVI, Virgin I. (Brit.)
SOURCE: PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002039948	A2	20020523	WO 2001-IL1050	20011113
WO 2002039948	A3	20020815		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2428748	A1	20020523	CA 2001-2428748	20011113
AU 2002023995	A5	20020527	AU 2002-23995	20011113
EP 1339349	A2	20030903	EP 2001-996348	20011113
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004535836	T	20041202	JP 2002-542323	20011113
US 2005260753	A1	20051124	US 2003-669476	20030923
US 2006024373	A1	20060202	US 2005-223465	20050909

PRIORITY APPLN. INFO.:		
US 2000-248447P	P	20001114
WO 2001-IL1050	W	20011113
US 2003-437663	B2	20030513
US 2003-445394	B1	20030523
US 2003-669476	A1	20030923

AB The present invention concerns universal biocompatible matrixes comprising crosslinked hyaluronic acid-laminin gels useful for clin. applications including as implants, for tissue engineering as well as in biotechnol. The gel matrixes according to the present invention may be used clin. either per se or as a cell bearing implant. The gels are particularly useful in transplantation to the nervous system or as a coating or a scaffold for use on medical devices including stents.

L17 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:491569 CAPLUS
DOCUMENT NUMBER: 125:158887
TITLE: Action of steroid hormones on growth and differentiation of CNS and spinal cord organotypic cultures
AUTHOR(S): Levy, A.; Garcia Segura, M.; Nevo, Z.; David, Y.; Shahar, A.; Naftolin, F.
CORPORATE SOURCE: Israel Institute Biological Research, Ness Ziona, Israel
SOURCE: Cellular and Molecular Neurobiology (1996), 16(3), 445-450
CODEN: CMNEDI; ISSN: 0272-4340
PUBLISHER: Plenum
DOCUMENT TYPE: Journal

LANGUAGE: English

AB During the prenatal period, gonadal steroid environment induces dramatic sexually dimorphic changes in the nervous system. We have used in vitro methods to study the mechanism and timing of hormonal influences on neuronal sprouting and myelination during the prenatal period. Organotypic cultures of hypothalamus and lumbar spinal cord (SC) slices from rat fetuses were grown on plasma clot or in hyaluronic acid and exposed to estrogen (17β estradiol) and testosterone (T) during cultivation. Both steroid hormones were active: 17β estradiol enhanced sprouting of hypothalamic neuronal fibers and increased the amount of synapses. In SC cultures T induced regeneration of thick nerve processes and an early onset of myelination, mainly of peripheral myelin.

L17 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:431669 CAPLUS
DOCUMENT NUMBER: 121:31669
TITLE: Identification of Gal(β1-3)GalNAc bearing glycoproteins at the nodes of Ranvier in peripheral nerve
AUTHOR(S): Apostolski, S.; Sadiq, S. A.; Hays, A.; Corbo, M.; Suturkova-Milosevic, L.; Chaliff, P.; Stefansson, K.; LeBaron, R. G.; Ruoslahti, E.; et al.
CORPORATE SOURCE: Coll. Physicians and Surgeons, Columbia Univ., New York, NY, USA
SOURCE: Journal of Neuroscience Research (1994), 38(2), 134-41
CODEN: JNREDK; ISSN: 0360-4012
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A subset of human anti-GM1 ganglioside antibodies cross-reacts with Gal(β1-3)GalNAc bearing glycoproteins in peripheral nerve and spinal cord. The same oligosaccharide determinant is recognized by the lectin peanut agglutinin (PNA) which binds at the nodes of Ranvier in intact peripheral nerve. The Gal(β1-3)GalNAc bearing glycoproteins were isolated using PNA lectin affinity chromatog. followed by separation on Western blot, and the proteins were subjected to partial amino acid sequence anal. Two major PNA binding glycoproteins were identified in peripheral nerve and spinal cord; one had an approx. mol. weight of 120 kD and had sequence homol. to the oligodendrocyte-myelin glycoprotein (OMgp). The other migrated between 70 and 80 kD and had sequence homol. to the hyaluronate binding domain of versican, which has been reported to share sequence homol. with the 70 kD proteins hyaluronectin and the glial hyaluronic acid binding protein (GHAP). By immunocytochem., OMgp was localized to the paranodal region of myelin, and the protein homologous to the hyaluronate binding domain of versican was localized to the nodal gap in peripheral nerve. These PNA binding glycoproteins might be target antigens for autoantibodies in peripheral nerve.

L17 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:236204 CAPLUS
DOCUMENT NUMBER: 120:236204
TITLE: Use of polysaccharides for treating acute peripheral neuropathies
INVENTOR(S): Prino, Giuseppe; Lanzarotti, Ennio; Casu, Benito; Ferro, Laura
PATENT ASSIGNEE(S): Crinos Industria Farmacobiologica S.p.A., Italy
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 582330	A1	19940209	EP 1993-202089	19930716
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
CA 2100197	A1	19940201	CA 1993-2100197	19930709
US 5605891	A	19970225	US 1993-94626	19930721
JP 06157322	A	19940603	JP 1993-191490	19930802
JP 3264560	B2	20020311		

PRIORITY APPLN. INFO.: IT 1992-MI1881 A 19920731

AB Polysaccharides, especially glycosaminoglycans, their mixts., fractions, and derivs. are effective in the therapy of acute peripheral neuropathies of traumatic, ischemic, and toxic origin. Suitable glycosaminoglycans are heparin, heparitin sulfate, chondroitin 4- and 6-sulfates, dermatan sulfate, and hyaluronic acid and their Na, Ca, and Mg salts. Thus, neurite formation by neuroblastoma cells in serum-free medium was partially inhibited by 10-8M PMA; this inhibition was overcome by 10-8M heparin. After sciatic nerve resection in rats, the decreases in levels of substance P (an index of sensory axon atrophy) and met-enkephalin (an index of transsynaptic degeneration of interneurons) in the dorsal horn substantia gelatinosa of the lumbar spinal cord were prevented by injection of heparin (0.25 mg/kg/day i.p. for 3 wk).

L17 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:630428 CAPLUS
DOCUMENT NUMBER: 117:230428
TITLE: The astrocyte-extracellular matrix complex in CNS myelinated tracts: a comparative study on the distribution of hyaluronate in rat, goldfish and lamprey
AUTHOR(S): Bignami, A.; Perides, G.; Asher, R.; Dahl, D.
CORPORATE SOURCE: Dep. Pathol., Harvard Med. Sch., Boston, MA, 02132, USA
SOURCE: Journal of Neurocytology (1992), 21(8), 604-13
CODEN: JNCYA2; ISSN: 0300-4864
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The localization of hyaluronate was studied in the central nervous system (CNS) of rat, goldfish and lamprey. Cryostat sections were incubated with glial hyaluronate-binding protein of human origin and stained by indirect immunofluorescence with glial hyaluronate binding protein antibodies not reacting with rat and fish. As previously reported for glial hyaluronate-binding protein and glial fibrillary acidic protein, hyaluronate and glial fibrillary acidic protein had a similar distribution in rat spinal cord and optic nerve, both substances forming ring-like structures around individual myelinated axons. A similar periaxonal distribution was observed in goldfish spinal cord and medulla, except that the rings were much wider, to accommodate the large goldfish axons. The glial fibrillary acidic protein-pos. neuroglial tissue forming distinctive structures in goldfish vagal lobes also stained for hyaluronate. In both rat and goldfish spinal cord, motoneurons were surrounded by a hyaluronate coat. Goldfish optic nerve and lamprey spinal cord were hyaluronate-neg. and, as previously reported, they stained for keratin but not for glial fibrillary acidic protein. The findings suggest that hyaluronate in CNS fiber tracts is a product of glial fibrillary acidic protein-pos. neuroglia. They also suggest that the appearance of glial fibrillary acidic protein-pos. neuroglia and the formation of a hyaluronate-bound extracellular matrix are related phenomena in phylogeny.

L17 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:487311 CAPLUS
DOCUMENT NUMBER: 117:87311
TITLE: The extracellular matrix of rat spinal cord:

a comparative study on the localization of hyaluronic acid, glial hyaluronate -binding protein, and chondroitin sulfate proteoglycan
AUTHOR(S): Bignami, A.; Asher, R.; Perides, G.
CORPORATE SOURCE: Dep. Pathol., Harvard Med. Sch., Boston, MA, 02155, USA
SOURCE: Experimental Neurology (1992), 117(1), 90-3
CODEN: EXNEAC; ISSN: 0014-4886
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The localization of hyaluronic acid (HA), glial hyaluronate-binding protein (GHAP), and chondroitin sulfate (CS) proteoglycan was compared in cryostat sections of rat spinal cord. HA, GHAP, and CS proteoglycan were similarly distributed in white matter where they surrounded myelinated axons. In gray matter, large motoneurons were surrounded by a rim of reaction products in sections stained for HA and CS proteoglycan. GHAP immunoreactivity as well as HA had disappeared in hyaluronidase-digested sections, while CS proteoglycan immunoreactivity was not abolished under these conditions.

L17 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:443788 CAPLUS
DOCUMENT NUMBER: 117:43788
TITLE: Ultrastructural localization of hyaluronan in myelin sheaths of the rat central and rat and human peripheral nervous systems using hyaluronan-binding protein-gold and link protein-gold
AUTHOR(S): Eggli, P. S.; Lucocq, J.; Ott, P.; Graber, W.; Van der Zypen, E.
CORPORATE SOURCE: Inst. Anat., Univ. Bern, Bern, 3012, Switz.
SOURCE: Neuroscience (Oxford, United Kingdom) (1992), 48(3), 737-44
CODEN: NRSCDN; ISSN: 0306-4522
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Neural tissue of central (rat spinal cord) and peripheral origin (rat sciatic nerve, nerve fascicles of rat skin and iris and of human conjunctiva) was processed by osmium tetroxide/microwave fixation and embedded in epoxy resin. Hyaluronan-binding proteins and link proteins coupled to 15-20-nm gold particles were used as markers in a one-step post-embedding procedure for identifying hyaluronan (hyaluronic acid) at the ultrastructural level. All myelin sheaths in both rat and human material were found to be intensely labeled. The specificity of the hyaluronan-binding probes was demonstrated by the total loss of labeling following treatment of sections with hyaluronidase or by preincubating either the probes with hyaluronan oligosaccharides or the sections with unlabeled hyaluronan-binding protein. The identified hyaluronan appears to be located extracellularly, but its precise role here remains to be elucidated.

L17 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:423765 CAPLUS
DOCUMENT NUMBER: 117:23765
TITLE: Some observations on the localization of hyaluronic acid in adult, newborn and embryonal rat brain
AUTHOR(S): Bignami, A.; Asher, R.
CORPORATE SOURCE: Dep. Pathol., Harvard Med. Sch., Boston, MA, 02132, USA
SOURCE: International Journal of Developmental Neuroscience (1992), 10(1), 45-57
CODEN: IJDND6; ISSN: 0736-5748
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Hyaluronic acid was localized in acetone-fixed cryostat sections of brain and spinal cord obtained from adult, newborn and embryonal rat. The sections were incubated with glial hyaluronate -binding protein (GHAP) of human origin and the protein was visualized by indirect immunofluorescence with monoclonal antibodies raised to human GHAP and not staining rat brain by immunofluorescence. GHAP is a brain extracellular matrix (ECM) glycoprotein, approx. 60,000 mol. weight, which is structurally related to the HA-binding region of cartilage ECM proteins. The distribution of hyaluronate in adult brain white matter and cerebellar cortex was similar to that previously reported for GHAP. In both cases, the reaction product formed a mesh surrounding myelinated axons and granule cells. Hyaluronate was also found in parts of the brain that did not contain GHAP. A finely reticulated mesh was observed in the neuropil between cell bodies in cerebral cortex and basal ganglia. Scattered cortical neurons were surrounded by a rim of reactive material. Perineural staining was the rule rather than the exception in spinal cord anterior horn motoneurons, inferior olivary nucleus, large bulbar reticular neurons and dentate nucleus of cerebellum. The only part of the brain which appeared relatively free of hyaluronate was the mol. layer of the cerebellum. In newborn and embryonal rat, the densely packed cell bodies in cerebral gray matter, periventricular germinal layer and external granular layer of cerebellum were surrounded by hyaluronate. Small droplets of hyaluronate were observed between the cylindrical epithelial cells lining the neural tube in 11 day embryos. Non-myelinated fiber tracts and the mol. layer of the developing cerebellum were relatively unstained. No hyaluronate was detected in the ependyma lining the cerebral ventricles and the central canal of the spinal cord.

L17 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1985:516112 CAPLUS

DOCUMENT NUMBER: 103:116112

TITLE: Effects of adjuvants to local anesthetics on their duration. III. Experimental studies of hyaluronic acid

AUTHOR(S): Hassan, H. G.; Aakerman, B.; Renck, H.; Lindberg, B.; Lindquist, B.

CORPORATE SOURCE: Dep. Anaesthesia, Enkoeping's Hosp., Swed.

SOURCE: Acta Anaesthesiologica Scandinavica (1985), 29(4), 384-8
CODEN: AANEAB; ISSN: 0001-5172

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effects of addition of hyaluronic acid (HA) [9004-61-9] to different local anesthetics of the amide type on the duration of sensory or motor blocks following various regional anesthetic procedures were studied in animal expts. In the rat infra-orbital nerve block model, the addition of 0.1-0.5% HA to 2% prilocaine [721-50-6] increased the duration of sensory block of varying degrees in a dose-dependent way by up to 500% of values obtained with plain prilocaine. The duration of degree 5 blocks produced by 0.5% etidocaine [36637-18-0] and 0.5% bupivacaine [2180-92-9] was also significantly prolonged when 0.4% HA was included to 206 and 282% of control, resp., whereas blocks induced by lidocaine [137-58-6] were prolonged to 123% of control. The duration of motor block following spinal anesthesia in the mouse was prolonged in a dose-dependent way when HA was added to prilocaine, bupivacaine, and etidocaine. For solns. containing 0.4% HA, prolongation to 254, 166, and 134% of control, resp., were obtained. A concomitant increase of latency to onset of block and failure rate occurred with increasing concns. of HA. The duration of corneal anesthesia in the rabbit increased by 57 and 44% when 0.3% HA was added to prilocaine and bupivacaine, resp. The duration of infiltration anesthesia was not affected by the addition of HA to the local anesthetic solns. Addition of HA had no effect on the onset, depth and

duration of prilocaine-induced block of the nervous transmission in vitro. The duration of infra-orbital nerve block and spinal anesthesia shows a significant relation to the relative viscosity of the local anesthetic solution

L23 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1988:443319 CAPLUS
DOCUMENT NUMBER: 109:43319
TITLE: Skin conditioner containing low-molecular-weight hyaluronic acids
INVENTOR(S): Deura, Hiroshi
PATENT ASSIGNEE(S): Lion Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62292710	A	19871219	JP 1986-135045	19860612
PRIORITY APPLN. INFO.:			JP 1986-135045	19860612

AB A skin conditioner contains hyaluronic acid and/or its salt (mol. weight 1000-8000). The low-mol.-weight hyaluronic acids penetrate into the skin better than high-mol.-weight hyaluronic acids, and provide moisturizing effects for a longer period. Thus, a topical cosmetic was prepared consisting of liquid paraffin 10, stearic acid 2, cetanol 2, iso-Pr palmitate 1, glyceryl monostearate 0.4, triethanolamine 1, glycerin 2, Na hyaluronate (average mol. weight 5000) 0.5, Me 4-hydroxybenzoate 0.1, Bu 4-hydroxybenzoate 0.1, perfume 0.2, and H2O 80.7 parts by weight

L24 ANSWER 25 OF 35 MEDLINE on STN
ACCESSION NUMBER: 2002027160 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11484939
TITLE: Network formation of low molecular weight hyaluronic acid derivatives.
AUTHOR: Borzacchiello A; Ambrosio L
CORPORATE SOURCE: Institute of Composite Materials Technology-CNR, Interdisciplinary Research Center in Biomaterials, University of Naples Federico I, Italy.. bassunta@unina.it
SOURCE: Journal of biomaterials science. Polymer edition, (2001) Vol. 12, No. 3, pp. 307-16.
Journal code: 9007393. ISSN: 0920-5063.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200112
ENTRY DATE: Entered STN: 21 Jan 2002
Last Updated on STN: 21 Jan 2002
Entered Medline: 21 Dec 2001

AB The oscillatory and steady shear rheological properties of the benzyl esters of hyaluronic acid (HA), partially esterified (Hyaff 11p50), at low molecular weight (150 kDa) were evaluated and compared to the properties of HA at the same molecular weight. At concentrations up to 40 mg cm(-3) both Hyaff 11p50 solutions and HA solutions, behaved as viscous fluids. At higher concentrations, HA ester solutions exhibited an elastic response typical of weak gels, whereas HA exhibited a viscous behaviour. A solid-like response was also observed by lowering the temperature. These results indicate that hyaluronic acid ester solutions can form a weak gel network. The rheological properties of HA derivatives changed significantly compared to HA solutions. The improved elasticity and residence times of these solutions expand the possible applications of hyaluronic acid in the biomedical field.

L24 ANSWER 26 OF 35 MEDLINE on STN
ACCESSION NUMBER: 2001482871 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11526540
TITLE: Low-molecular-weight hyaluronic acid induces nuclear factor-kappaB-dependent resistance against tumor necrosis factor alpha-mediated liver injury in mice.
AUTHOR: Wolf D; Schumann J; Koerber K; Kiemer A K; Vollmar A M; Sass G; Papadopoulos T; Bang R; Klein S D; Brune B; Tiegs G
CORPORATE SOURCE: Institute of Experimental and Clinical Pharmacology and Toxicology, Faculty of Medicine, University of Erlangen-Nurnberg, Erlangen, Germany.
SOURCE: Hepatology (Baltimore, Md.), (2001 Sep) Vol. 34, No. 3, pp. 535-47.
Journal code: 8302946. ISSN: 0270-9139.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200109
ENTRY DATE: Entered STN: 30 Aug 2001
Last Updated on STN: 20 Apr 2002
Entered Medline: 20 Sep 2001

AB Liver resident NK1.1+ T cells are supposed to play a pivotal role in the onset of inflammatory liver injury in experimental mouse models such as concanavalin A (Con A)-induced hepatitis. These cells, expressing the adhesion receptor, CD44, are largely depleted from the liver by a single

intravenous injection of low-molecular-weight fragments of hyaluronic acid (LMW-HA). Here, we report that LMW-HA pretreatment protected mice from liver injury in several models of T-cell- and macrophage-dependent, tumor necrosis factor alpha (TNF-alpha)-mediated inflammatory liver injury, i.e., from liver injury induced by either Con A or Pseudomonas exotoxin A (PEA) or PEA/lipopolysaccharide (LPS). Interestingly, apart from inhibition of cellular adhesion, pretreatment of mice with LMW-HA was also capable of preventing hepatocellular apoptosis and activation of caspase-3 induced by direct administration of recombinant murine (rmu) TNF-alpha to D-galactosamine (GalN)-sensitized mice. LMW-HA-induced hepatoprotection could be neutralized by pretreatment with the nuclear factor-kappaB (NF-kappaB) inhibitor, pyrrolidine dithiocarbamate (PDTC), demonstrating the involvement of NF-kappaB in the observed protective mechanism. Indeed, injection of LMW-HA rapidly induced the production of TNF-alpha by Kupffer cells and the translocation of NF-kappaB into hepatocellular nuclei. Both LMW-HA-induced TNF-alpha production and NF-kappaB translocation were blocked by pretreatment with PDTC. Our findings provide evidence for an unknown mechanism of LMW-HA-dependent protection from inflammatory liver disease, i.e., induction of TNF-alpha- and NF-kappaB-dependent cytoprotective proteins within the target parenchymal liver cells.

L24 ANSWER 27 OF 35 MEDLINE on STN
ACCESSION NUMBER: 2000206203 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10744336
TITLE: Preparation and characterisation of copper(II) hyaluronate.
AUTHOR: Pirc E T; Arcon I; Bukovec P; Kodre A
CORPORATE SOURCE: University of Ljubljana, Faculty of Chemistry and Chemical Technology, Slovenia.. elizabeta.tratar@uni-lj.si
SOURCE: Carbohydrate research, (2000 Mar 10) Vol. 324, No. 4, pp. 275-82.
Journal code: 0043535. ISSN: 0008-6215.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200005
ENTRY DATE: Entered STN: 6 Jun 2000
Last Updated on STN: 6 Jun 2000
Entered Medline: 22 May 2000

AB Amorphous copper complexes of the general composition Cu(C14H20O11N)2 x xH2O have been prepared with high- and low-molecular-weight hyaluronic acid (HA). Optimal conditions for preparation are obtained at pH values from 5.0 to 5.5, with a molar ratio of HA versus Cu2+ of 1:1, and at a mass concentration of 5 and 10 mg/mL for high- (Mw = 1.8 x 10(6) Da) and low-molecular-weight sodium hyaluronate (Mw = 2 x 10(5) Da), respectively. The coordination polyhedron of the copper ion has been elucidated by EXAFS and XANES spectroscopy. Copper atoms are octahedrally coordinated in both cases with four equatorial Cu-O bond lengths of 1.95 A, and two axial Cu-O bonds of 2.46 A. Visible spectra of acidic aqueous solution suggest that substitution of axial oxygens by NH groups occurs at pH 6.5 or higher. If the pH value of the copper(II) hyaluronate solution increases above 6.5, the coordination of copper(II) changes. It is very likely that the N atom coming from the acetamido group enters into the coordination sphere of the copper(II) ion.

L24 ANSWER 28 OF 35 MEDLINE on STN
ACCESSION NUMBER: 2000170400 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10708127
TITLE: Blocking of CD44-hyaluronic acid interaction prolongs rat allograft survival.
AUTHOR: Zhang W; Gao L; Qi S; Liu D; Xu D; Peng J; Daloze P; Chen

H; Buelow R
CORPORATE SOURCE: SangStat Medical Corporation, Fremont, California 94555, USA.
SOURCE: Transplantation, (2000 Feb 27) Vol. 69, No. 4, pp. 665-7.
Journal code: 0132144. ISSN: 0041-1337.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 30 Mar 2000
Last Updated on STN: 30 Mar 2000
Entered Medline: 23 Mar 2000

AB BACKGROUND: Lymphocyte activation and infiltration into a transplanted organ is an integral component of the rejection process. Graft infiltration of lymphocytes requires adhesion of leukocytes to the endothelium, diapedesis, and transmigration. One of several proteins involved in this process is CD44, which is known to interact with endothelial hyaluronan (HA). Blockade of cell-matrix and cell-cell interactions have been used extensively for modulation of immune responses and graft rejection. Based on these observations, we evaluated the effects of blocking CD44-HA interactions in a transplantation model. METHODS: We used a low molecular weight hyaluronic acid formulation (LMWHA) for the treatment of rat renal and cardiac allograft recipients. LMWHA was administered intraperitoneally at 0.5-5 mg/kg for 5-10 days after transplantation with or without a subtherapeutic dose of cyclosporine. RESULTS: LMWHA monotherapy prolonged allograft survival significantly, but only for a few days. In combination with low-dose cyclosporine, long-term survival of allografts was observed in some of recipients. CONCLUSION: Further definition of the underlying mechanism of LMWHA therapy may provide a rationale for the development of novel, nontoxic, nonimmunogenic immunotherapies.

L24 ANSWER 29 OF 35 MEDLINE on STN
ACCESSION NUMBER: 1999310996 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10381822
TITLE: Urinary trypsin inhibitor down-regulates hyaluronic acid fragment-induced prostanoid release in cultured human amnion cells by inhibiting cyclo-oxygenase-2 expression.
AUTHOR: Kobayashi H; Sun G W; Terao T
CORPORATE SOURCE: Department of Obstetrics and Gynecology, Hamamatsu University School of Medicine, Handacho 3600, Hamamatsu, Shizuoka, 431-3192, Japan.
SOURCE: Molecular human reproduction, (1999 Jul) Vol. 5, No. 7, pp. 662-7.
Journal code: 9513710. ISSN: 1360-9947.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199908
ENTRY DATE: Entered STN: 27 Aug 1999
Last Updated on STN: 27 Aug 1999
Entered Medline: 16 Aug 1999

AB We postulated that urinary trypsin inhibitor (UTI), a Kunitz-type protease inhibitor, may inhibit low molecular weight hyaluronic acid (HA) fragment-induced prostanoid release and de-novo expression of the inducible cyclo-oxygenase-2 (COX-2) isoform in human term amnion cells. Purified amnion cultures were obtained from human fetal membranes and were exposed to a HA fragment (molecular weight 35 kDa) in the presence or absence of UTI (0-5.0 micromol/l). Amnion cells treated with the HA fragment (100 nmol/l) released significantly

more prostanoids (PGE2 and PGF2alpha) than controls (PGE2: 2.1 +/- 0.13 pg/10(6) cells/24 h compared with 0.42 +/- 0.01, P < 0.05; PGF2alpha: 1.0 +/- 0.17 pg/10(6) cells/24 h compared with 0.13 +/- 0.01, P < 0.05). UTI inhibited HA fragment-induced prostanoid release in a dose-dependent manner, with 50% inhibitory concentration values of 0.8 micromol/l for PGE2 and 1.9 micromol/l for PGF2alpha. Western blot analyses demonstrated that protein levels of COX-2 were substantially increased in amnion cells treated with HA fragment. HA fragment-mediated COX-2 production was markedly diminished by pretreatment with UTI (1.0 micromol/l). These results are the first to demonstrate that UTI is a potent inhibitor of HA fragment-induced arachidonic acid metabolism.

L24 ANSWER 30 OF 35 MEDLINE on STN
ACCESSION NUMBER: 1999217792 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10203142
TITLE: The role of low molecular weight hyaluronic acid contained in Wharton's jelly in necrotizing funisitis.
AUTHOR: Kanayama N; Goto J; Terao T
CORPORATE SOURCE: Department of Obstetrics and Gynecology, Hamamatsu University School of Medicine, Japan.
SOURCE: Pediatric research, (1999 Apr) Vol. 45, No. 4 Pt 1, pp. 510-4.
Journal code: 0100714. ISSN: 0031-3998.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199906
ENTRY DATE: Entered STN: 28 Jun 1999
Last Updated on STN: 28 Jun 1999
Entered Medline: 15 Jun 1999

AB The purpose of this research was to study the changes in the molecular weight of hyaluronic acid in Wharton's jelly altered by necrotizing funisitis. Umbilical cords were collected at delivery from 20 newborns without funisitis, 6 newborns with acute funisitis, and 4 newborns with necrotizing funisitis. Agarose gel electrophoresis of Wharton's jelly was performed to analyze the molecular weight of hyaluronic acid (HA). We also investigated the effects of low or high molecular weight HA on the production of interleukin-8 in human umbilical fibroblasts. In Wharton's jelly without funisitis, HA was 1150 +/- 280 kD in preterm newborns, regardless of gestational week at birth, and that in full-term newborns was 1100 +/- 200 kD. When acute funisitis was present, HA was 700 +/- 250 kD, and when necrotizing funisitis was present, HA was 520 +/- 100 kD. The molecular weight of HA was significantly below normal in newborns with necrotizing funisitis. Low molecular weight HA was associated with increased levels of IL-8 in the supernatant of cultured human umbilical fibroblasts in a time- and dose-dependent manner. High molecular weight HA did not induce the production of IL-8 in the same cells. Low molecular weight HA has a potent inflammatory action. The conversion from high to low molecular weight HA in Wharton's jelly may be important in the pathophysiology of necrotizing funisitis.

L24 ANSWER 31 OF 35 MEDLINE on STN
ACCESSION NUMBER: 1999013724 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9795252
TITLE: Production of prostanoids via increased cyclo-oxygenase-2 expression in human amnion cells in response to low molecular weight hyaluronic acid fragment.
AUTHOR: Kobayashi H; Sun G W; Terao T
CORPORATE SOURCE: Department of Obstetrics and Gynecology, Hamamatsu University School of Medicine, Handacho 3600, Hamamatsu,

Shizuoka 431-3192, Japan.
SOURCE: Biochimica et biophysica acta, (1998 Oct 23) Vol. 1425, No. 2, pp. 369-76.
Journal code: 0217513. ISSN: 0006-3002.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199812
ENTRY DATE: Entered STN: 15 Jan 1999
Last Updated on STN: 15 Jan 1999
Entered Medline: 2 Dec 1998

AB Increased concentrations of hyaluronic acid (HA) have been found in serum and at uterine cervix at term. In its native form, HA exists as a high molecular weight (MW) polymer, but during parturition a lower MW HA fragment accumulates. The aim of this study was to investigate the regulatory mechanisms responsible for increased amnion prostanoid production and cyclo-oxygenase (COX) expression in response to HA. Human term amnion cells in culture were exposed to native HA polymer (MW 2.2x106) and its fragment (MW 3.5x104). We have determined levels of prostanoids, prostaglandins E2 and F2alpha, in conditioned media using specific immunoassays. Expression of COX-1 and COX-2 was examined with Western blot. Results were analyzed for statistical significance with Mann-Whitney U-test. Human amnion cells treated with HA fragment (100 nmol/l) produced significantly more PGE2 (2.3+/-0.21 (mean+/-S.D.) pg/106 cells/24 h) than controls (0.34+/-0.03) or high MW HA-treated cells (1.2+/-0.21). Protein levels of COX-2, but not COX-1, were substantially increased in amnion cells treated with HA fragment. HA fragment-mediated prostanoid production is markedly diminished by pretreatment with indomethacin. Our results indicate that HA fragment, rather than physiologic native HA polymer, induces amnion cell-derived prostanoid production via increased COX-2 expression. COX-2-mediated prostanoid production is likely a key physiologic event in HA fragment-mediated cervical ripening and the labor onset.

L24 ANSWER 32 OF 35 MEDLINE on STN
ACCESSION NUMBER: 97205573 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9091346
TITLE: Reduction of adhesion formation with hyaluronic acid after peritoneal surgery in rabbits.
AUTHOR: Rodgers K E; Johns D B; Girgis W; Campeau J; diZerega G S
CORPORATE SOURCE: Livingston Reproductive Biology Laboratory, University of Southern California School of Medicine, Los Angeles 90033, USA.
SOURCE: Fertility and sterility, (1997 Mar) Vol. 67, No. 3, pp. 553-8.
Journal code: 0372772. ISSN: 0015-0282.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199704
ENTRY DATE: Entered STN: 22 Apr 1997
Last Updated on STN: 22 Apr 1997
Entered Medline: 4 Apr 1997

AB OBJECTIVE: To examine the effect of hyaluronic acid, a high-molecular-weight glucosaminoglycan found in the extracellular matrix, on the formation of adhesions, a major source of postoperative complications. DESIGN: The ability of hyaluronic acid to reduce adhesion formation was evaluated using a standardized rabbit model. The material was administered i.p. at the end of surgery. SETTING: University laboratory. ANIMAL(S): New Zealand White female rabbits.

INTERVENTION(S): Intraperitoneal administration of various formulations of hyaluronic acid at the end of surgery. MAIN OUTCOME MEASURE(S): One week after surgery, a second laparotomy was performed and the extent of adhesion formation was determined. RESULT(S): Five separate molecular weight ranges of hyaluronic acid representing eight viscosities between 1,000 and 12,000 centipoise (CPS) were shown to reduce adhesion formation in this model. All volumes, 1 to 30 mL, of hyaluronic acid tested reduced adhesion formation. In addition, the low-viscosity, low-molecular-weight hyaluronic acid significantly reduced adhesion formation when added to the trauma site or when injected at a site remote from the trauma area. CONCLUSION(S): This study showed that hyaluronic acid administered at the end of surgery reduced adhesion formation.

L24 ANSWER 33 OF 35 MEDLINE on STN
ACCESSION NUMBER: 93288237 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8390012
TITLE: Hyaluronic acid metabolism and its clinical significance in patients treated by continuous ambulatory peritoneal dialysis.
AUTHOR: Lipkin G W; Forbes M A; Cooper E H; Turney J H
CORPORATE SOURCE: Department of Renal Medicine, General Infirmary, Leeds, UK.
SOURCE: Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association, (1993) Vol. 8, No. 4, pp. 357-60.
Journal code: 8706402. ISSN: 0931-0509.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199307
ENTRY DATE: Entered STN: 23 Jul 1993
Last Updated on STN: 23 Jul 1993
Entered Medline: 13 Jul 1993

AB Musculoskeletal syndromes are common in patients treated by dialysis for end-stage renal failure and abnormal connective tissue metabolism has been implicated. Hyaluronic acid is a major component of connective tissue ground substance. Serum, dialysate, and 24-h urine hyaluronic acid was therefore measured in 43 patients treated by CAPD to determine hyaluronic acid metabolism and to relate these variables to morbidity and mortality over an 18-month period. Serum hyaluronic acid was elevated in 71% patients, being correlated with patient age, length of time on dialysis, and weight loss over the preceding 6 months. Small quantities of predominantly low-molecular-weight hyaluronic acid were lost in the urine, whereas much larger amounts of mixed-molecular-weight hyaluronic acid were excreted in peritoneal dialysate. Dialysate hyaluronic acid exceeded serum hyaluronic acid. Baseline serum hyaluronic acid was closely correlated with morbidity and mortality over the following 18 months. Serum hyaluronic acid is an accurate predictor of mortality and morbidity over an 18-month period in patients treated by CAPD. Large quantities of hyaluronic acid are excreted in peritoneal dialysate, which in part represents local hyaluronic acid production.

L24 ANSWER 34 OF 35 MEDLINE on STN
ACCESSION NUMBER: 92192487 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1547962
TITLE: Low-molecular-weight sodium hyaluronate in the treatment of bacterial corneal ulcers.
AUTHOR: Gandolfi S A; Massari A; Orsoni J G
CORPORATE SOURCE: Istituto di Oftalmologia, Universita di Parma, Italy.
SOURCE: Graefe's archive for clinical and experimental ophthalmology = Albrecht von Graefes Archiv fur klinische

und experimentelle Ophthalmologie, (1992) Vol. 230, No. 1, pp. 20-3.
Journal code: 8205248. ISSN: 0721-832X.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: (CLINICAL TRIAL)
(COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199204
ENTRY DATE: Entered STN: 9 May 1992
Last Updated on STN: 9 May 1992
Entered Medline: 20 Apr 1992

AB A double-blind clinical trial was performed on 26 patients suffering from corneal ulcers of proven (i.e., culture-positive) bacterial etiology. After their recruitment, the subjects were randomly assigned to one of the following treatment protocols: (1) tobramycin (15 mg/ml) in saline applied at 1 drop/h or (2) tobramycin (15 mg/ml) in low-molecular-weight hyaluronic acid applied at 1 drop/h. The sample size was adjusted according to a type I error of 0.01 and type a II error of 0.05 for a minimal expected difference of 35%. The healing time was calculated from the beginning of treatment to the day on which a follow-up fluorescein test proved to be negative. The mean healing time (+/- SD) was 3.5 +/- 0.9 days in the sodium hyaluronate group and 5.9 +/- 1.5 days in the saline group (P less than 0.001). These results suggest that treatment with an antibiotic dissolved in low-molecular-weight sodium hyaluronate can further shorten the clinical course of a bacterial corneal ulcer.

L24 ANSWER 35 OF 35 MEDLINE on STN
ACCESSION NUMBER: 68404678 MEDLINE
DOCUMENT NUMBER: PubMed ID: 4233982
TITLE: Regional distribution of acid mucopolysaccharides in the kidney.
AUTHOR: Castor C W; Greene J A
SOURCE: The Journal of clinical investigation, (1968 Sep) Vol. 47, No. 9, pp. 2125-32.
Journal code: 7802877. ISSN: 0021-9738.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 196810
ENTRY DATE: Entered STN: 1 Jan 1990
Last Updated on STN: 1 Jan 1990
Entered Medline: 28 Oct 1968

AB Kidneys from 20 dogs were dissected into cortical and medullary components and analysed for acid mucopolysaccharide content. Heparitin sulfate accounted for approximately 80% of cortical acid mucopolysaccharide, 10% was chondroitin sulfate B, and 10% was low molecular weight hyaluronic acid. Medullary tissue exhibited a 4- to 5-fold higher concentration of acid mucopolysaccharide than did cortical tissue, and the dominant compound was moderately highly polymerized hyaluronic acid. While chondroitin sulfates A and (or) C were not detected in this study, the presence of minor amounts of these substances could not be excluded. A model experiment indicated that hyaluronic acid retards sodium diffusion, apparently due to its viscous properties rather than its electronegativity.

L24 ANSWER 15 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:239114 CAPLUS
DOCUMENT NUMBER: 124:314189
TITLE: Low molecular weight hyaluronic acid induces angiogenesis and modulation of the cellular infiltrate in primary and secondary healing wounds
AUTHOR(S): Borgognoni, Lorenzo; Reali, Umberto M.; Santucci, Marco
CORPORATE SOURCE: Division Plastic and Reconstructive Surgery, University Florence Medical School, Florence, I-50121, Italy
SOURCE: European Journal of Dermatology (1996), 6(2), 127-31
CODEN: EJDEE4; ISSN: 1167-1122
PUBLISHER: Libbey Eurotext
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Hyaluronic acid (HA), a major component of the extracellular matrix, is significantly involved in wound healing and is reduced to low mol. weight fragments during the wound healing process. In this study the authors investigated the effects of low mol. weight HA (Mw 140,000-160,000 kDa) on primary healing (sutured) and secondary healing (open) wounds in rats. The aims of the study were: to characterize the time-related modifications induced by HA on the cellular infiltrate, by histol. examination; to quantify the effects of HA on angiogenesis, by immunohistochem. methods and morphometrical anal. and to verify whether HA induces different effects in primary and secondary healing wounds. In the HA-treated wounds the inflammatory infiltrate and the fibroblasts developed earlier, for a longer time and in larger amts. compared with control lesions. The morphometrical anal. of angiogenesis demonstrated a larger quantity of microvessels in HA-treated lesions than in controls and the differences were statistically significant. These effects were evident both in primary and in secondary healing wounds. However, no favorable effect on the wound healing time was evident in primary healing treated wounds, whereas in secondary healing wounds the HA effects considerably aided the healing process, as documented by the acceleration of wound closure.

L24 ANSWER 16 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:801646 CAPLUS
DOCUMENT NUMBER: 123:179520
TITLE: Pharmaceutical compositions containing low molecular weight hyaluronic acid with peptide or protein
INVENTOR(S): Jederstroem, Gustav
PATENT ASSIGNEE(S): Pharmacia AB, Swed.
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9518635	A1	19950713	WO 1995-SE11	19950110
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2179294	A1	19950713	CA 1995-2179294	19950110
CA 2179294	C	20061212		
AU 9514692	A	19950801	AU 1995-14692	19950110
AU 689841	B2	19980409		
EP 750515	A1	19970102	EP 1995-906577	19950110
EP 750515	B1	20020904		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE

JP 09507244	T	19970722	JP 1995-518436		19950110
AT 223233	T	20020915	AT 1995-906577		19950110
PT 750515	T	20030131	PT 1995-906577		19950110
ES 2182886	T3	20030316	ES 1995-906577		19950110
US 6180601	B1	20010130	US 1996-666497		19960618
PRIORITY APPLN. INFO.:			SE 1994-36	A	19940110
			WO 1995-SE11	W	19950110

AB Freeze-dried soft, flexible and continuous matrix of low-mol. weight hyaluronic acid (I) or salt thereof, in which the mol. weight of the hyaluronic acid is preferably between 50,000 and 200,000 Da, containing at least one peptide or protein is calimed. A topical pharmaceutical composition in the form of a layer is characterized by this freeze-dried low-mol. weight I containing at least one peptide or protein. The drug is preferably chosen from at least one of GH, IGF-I, IGF-II and/or EGF and could be mixed with an antibiotic. The process for the manufacture of this matrix and the use of the pharmaceutical composition for the manufacturing of a drug for wound healing is claimed. I was prepared by stirring a solution of 2.51 g Na hyaluronate in 500 mL water with 16 mL HCl at 22-23° under N for 2 h. The solution was then dialyzed and freeze-dried. Freeze-dried I, mol. weight 150,000, was mixed with Genotropin (human somatotropin) (II) in water to obtain 6.5 mg I and 110 IU II/mL resp., and freeze-dried. The amount of I after storage at 5-8° for 1 mo was 99%.

L24 ANSWER 17 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:	1993:678812 CAPLUS
DOCUMENT NUMBER:	119:278812
TITLE:	Preparations of low-molecular weight hyaluronic acid for stimulating bone formation
INVENTOR(S):	Callegaro, Lanfranco; Romeo, Aurelio
PATENT ASSIGNEE(S):	Fidia S.p.A., Italy
SOURCE:	PCT Int. Appl., 27 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9320827	A1	19931028	WO 1993-EP932		19930416
W: AU, BB, BG, BR, CA, CZ, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US, VN					
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG					
AU 9340404	A	19931118	AU 1993-40404		19930416
AU 677189	B2	19970417			
EP 637245	A1	19950208	EP 1993-911478		19930416
EP 637245	B1	19990317			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE					
JP 08508973	T	19960924	JP 1993-517993		19930416
JP 3333205	B2	20021015			
AT 177641	T	19990415	AT 1993-911478		19930416
ES 2130268	T3	19990701	ES 1993-911478		19930416
CA 2118219	C	20040601	CA 1993-2118219		19930416
PRIORITY APPLN. INFO.:			IT 1992-PD71	A	19920417
			WO 1993-EP932	A	19930416

AB An osteoinductive hyaluronic acid fraction with mol. weight 20,000-60,000 Da, viscosity 1.2-2.8 dL/g, and protein content <0.5% is prepared for maintaining bone function and for treating degenerative pathol. conditions. A mixture of hyalastin and hyalectin was obtained from minced hen crests and hyalastin fraction with an average mol. weight 50,000-100,000 was

separated from the mixture by ultrafiltration. Low-mol. weight hyaluronic acid fractions were obtained from the hyalastin and their osteoinductive activity was tested in vitro by addition to mesenchymal cell culture media.

L24 ANSWER 18 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:230956 CAPLUS
DOCUMENT NUMBER: 114:230956
TITLE: Production of low-molecular weight hyaluronic acid by shear
INVENTOR(S): Akasaka, Hidemichi; Yamaguchi, Toshijiro
PATENT ASSIGNEE(S): Shiseido Co., Ltd., Japan
SOURCE: PCT Int. Appl., 13 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9104279	A1	19910404	WO 1990-JP1168		19900912
W: CA, JP, US					
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE					
CA 2041640	A1	19910313	CA 1990-2041640		19900912
EP 443043	A1	19910828	EP 1990-913540		19900912
EP 443043	B1	19950405			
R: BE, CH, DE, ES, FR, GB, IT, LI, SE					
JP 04505774	T	19921008	JP 1990-512655		19900912
ES 2070335	T3	19950601	ES 1990-913540		19900912
PRIORITY APPLN. INFO.:			JP 1989-236731	A	19890912
			WO 1990-JP1168	W	19900912

AB Hyaluronic acid with mol. weight ≤500,000, a narrow mol. weight distribution, and good thermal stability is prepared by shear-induced mech. degradation

L24 ANSWER 19 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:233429 CAPLUS
DOCUMENT NUMBER: 112:233429
TITLE: The effect of high and low molecular weight hyaluronic acid on mitogen-induced lymphocyte proliferation
AUTHOR(S): Peluso, G. F.; Perbellini, A.; Tajana, G. F.
CORPORATE SOURCE: Univ. Reggio Calabria, Reggio Calabria, Italy
SOURCE: Current Therapeutic Research (1990), 47(3), 437-43
CODEN: CTCEA9; ISSN: 0011-393X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The role of synovial fluid in joint immunol. is poorly understood. Hyaluronic acid, a major macromol. component of the synovial fluid, affects lymphocyte proliferation. Using high- and low-mol.-weight hyaluronic acid, the mechanisms by which it inhibits lymphocyte proliferation were studied in human lymphocytes in vitro. Only the high-mol.-weight hyaluronic acid was inhibitory, indicating that suppression is dependent on the physiol. properties, concentration, and mol. weight of the biopolymer.

L24 ANSWER 20 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:121064 CAPLUS
DOCUMENT NUMBER: 110:121064
TITLE: Preparation of low molecular-weight hyaluronic acid as cosmetic component
INVENTOR(S): Ishioroshi, Masato; Horiike, Shunsuke
PATENT ASSIGNEE(S): Q. P. Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63057602	A	19880312	JP 1986-201355	19860829
JP 05077681	B	19931027		

PRIORITY APPLN. INFO.: JP 1986-201355 19860829

AB Low mol.-weight hyaluronic acid for cosmetics is extracted from a paste prepared by treating a hyaluronic acid-containing material with an alkali (0.01-0.1M) at 50-70° for 60-180 min. The low mol.-weight hyaluronic acid is soluble in H2O and used as an additive for skin cosmetics. Thus, 8.4 g of low mol.-weight hyaluronic acid (mol. weight 7 + 104) was isolated from 1 kg cockscombs, using NaOH as the alkali.

L24 ANSWER 21 OF 35 MEDLINE on STN
ACCESSION NUMBER: 2005255195 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15895892
TITLE: Comparison of two hyaluronan drugs in patients with advanced osteoarthritis of the knee. A prospective, randomized, double-blind study with long term follow-up.
AUTHOR: Karatosun V; Unver B; Gocen Z; Sen A
CORPORATE SOURCE: Department of Orthopaedic Surgery, Dokuz Eylul University Hospital, Balcova, Izmir, Turkey..
vasfi.karatosun@deu.edu.tr
SOURCE: Clinical and experimental rheumatology, (2005 Mar-Apr) Vol. 23, No. 2, pp. 213-8.
Journal code: 8308521. ISSN: 0392-856X.
PUB. COUNTRY: Italy
DOCUMENT TYPE: (CLINICAL TRIAL)
(COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200507
ENTRY DATE: Entered STN: 18 May 2005
Last Updated on STN: 27 Jul 2005
Entered Medline: 26 Jul 2005

AB OBJECTIVES: To compare the long-term effects of high and low molecular weight hyaluronic acid (HA) applications in severe (Kellgren Lawrence stage III) osteoarthritis (OA) of the knee. METHODS: In a prospective clinical trial 184 knees (92 patients) with radiographic Kellgren Lawrence stage III OA were randomized to receive either 3 intra-articular high molecular weight HA (Hylan G-F 20) injections or 3 low molecular weight HA (Orthovisc) injections at one-week intervals. Patients were evaluated by the Hospital for Special Surgery (HSS) Knee Score and were followed-up for 12 months. RESULTS: The total HSS score in high molecular weight HA patients improved from 71.8+/-11.6 to 86.7+/-11.6 and in low molecular weight HA patients from 66.7+/-11.0 to 86.6+/-9.1 at the end of the trial ($p < 0.01$). There were no statistically significant differences between the groups and both had improved in all parameters at the latest follow-up ($p = 0.000$). CONCLUSIONS: Three intra-articular injections at intervals of 1 week of both HA preparations resulted in a pronounced reduction in pain and improved function as measured by the HSS score during a period of 52 weeks, without complications.

L24 ANSWER 22 OF 35 MEDLINE on STN

ACCESSION NUMBER: 2005241332 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15757905
TITLE: Mechanisms involved in enhancement of osteoclast formation and function by low molecular weight hyaluronic acid.
AUTHOR: Ariyoshi Wataru; Takahashi Tetsu; Kanno Takahiro; Ichimiya Hisashi; Takano Hiroshi; Koseki Takeyoshi; Nishihara Tatsuji
CORPORATE SOURCE: Second Department of Oral and Maxillofacial Surgery, School of Dentistry, Kyushu Dental College, Kitakyushu, Japan.
SOURCE: The Journal of biological chemistry, (2005 May 13) Vol. 280, No. 19, pp. 18967-72. Electronic Publication: 2005-03-09.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200507
ENTRY DATE: Entered STN: 10 May 2005
Last Updated on STN: 13 Jul 2005
Entered Medline: 12 Jul 2005

AB Hyaluronic acid (HA) is a component of the extracellular matrix that has been shown to play an important role in bone formation, resorption, and mineralization both in vivo and in vitro. We examined the effects of HA at several molecular weights on osteoclast formation and function induced by RANKL (receptor activator of NF-kappa B ligand) in a mouse monocyte cell line (RAW 264.7). HA at M(r) < 8,000 (low molecular weight HA (LMW-HA)) enhanced tartrate-resistant acid phosphatase-positive multinucleated cell formation and tartrate-resistant acid phosphatase activity induced by RANKL in a dose-dependent manner, whereas HA at M(r) > 900,000 (high molecular weight HA (HMW-HA)) showed no effect on osteoclast differentiation. LMW-HA enhanced pit formation induced by RAW 264.7 cells, whereas HMW-HA did not, and LMW-HA stimulated the expression of RANK (receptor activator of NF-kappa B) protein in RAW 264.7 cells. In addition, we found that LMW-HA enhanced the levels of c-Src protein and phosphorylation of ERKs and p38 MAPK in RAW 264.7 cells stimulated with RANKL, whereas the p38 MAPK inhibitor SB203580 inhibited RANKL-induced osteoclast differentiation. This enhancement of c-Src and RANK proteins induced by LMW-HA was inhibited by CD44 function-blocking monoclonal antibody. These results indicate that LMW-HA plays an important role in osteoclast differentiation and function through the interaction of RANKL and RANK.

L24 ANSWER 23 OF 35 MEDLINE on STN
ACCESSION NUMBER: 2002425913 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12182235
TITLE: Low molecular weight hyaluronic acid prevents oxygen free radical damage to granulation tissue during wound healing.
AUTHOR: Trabucchi E; Pallotta S; Morini M; Corsi F; Franceschini R; Casiraghi A; Pravettoni A; Foschi D; Minghetti P
CORPORATE SOURCE: Wound Healing Center, Erba Voglio Foundation, Brescia, Italy.. emilio.trabucchi@unimi.it
SOURCE: International journal of tissue reactions, (2002) Vol. 24, No. 2, pp. 65-71.
Journal code: 8302116. ISSN: 0250-0868.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200303
ENTRY DATE: Entered STN: 17 Aug 2002
Last Updated on STN: 13 Mar 2003

Entered Medline: 12 Mar 2003

AB Hyaluronic acid protects granulation tissue from oxygen free radical damage and stimulates wound healing, but its molecular weight prevents it from permeating the epidermal barrier A low molecular weight hyaluronic acid preparation is able to permeate the skin, but it is unknown whether or not it retains the scavenging effects of oxygen free radicals in granulation tissue. Our experiments were conducted in rats with excisional or incisional wounds. Wound contraction over 11 days and breaking strength on the fifth day were measured. Oxygen free radical production was induced by intraperitoneal administration of two different xenobiotics: phenazine methosulfate and zymosan. The wounds were treated topically with low molecular weight hyaluronic acid (0.2%) cream or placebo. In the incisional wound group, the effects of superoxide dismutase were also determined. Absolute controls received wounds and placebo but no xenobiotics. Wound healing was significantly slower in the xenobiotic group than in the control groups. These effects were strongly reduced by topical administration of low molecular weight hyaluronic acid (0.2%) cream and in incisional wounds by topically injected superoxide dismutase. Low molecular weight hyaluronic acid is effective as the native compound against oxygen free radicals. Its pharmacological effects through transdermal administration should be tested in appropriate models.

L24 ANSWER 24 OF 35 MEDLINE on STN

ACCESSION NUMBER: 2002159120 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11884420
TITLE: Cutting edge: identification of c-Rel-dependent and -independent pathways of IL-12 production during infectious and inflammatory stimuli.
AUTHOR: Mason Nicola; Aliberti Julio; Caamano Jorge C; Liou Hsiou-Chi; Hunter Christopher A
CORPORATE SOURCE: Department of Pathobiology, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA 19104, USA.
CONTRACT NUMBER: AI 46288 (NIAID)
SOURCE: Journal of immunology (Baltimore, Md. : 1950), (2002 Mar 15) Vol. 168, No. 6, pp. 2590-4.
Journal code: 2985117R. ISSN: 0022-1767.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, U.S. GOV'T, P.H.S.)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200204
ENTRY DATE: Entered STN: 14 Mar 2002
Last Updated on STN: 16 Apr 2002
Entered Medline: 15 Apr 2002

AB The production of IL-12 is required for immunity to many intracellular pathogens. Recent studies have shown that c-Rel, a member of the NF-kappaB family of transcription factors, is essential for LPS-induced IL-12p40 production by macrophages. In this study, we demonstrate that c-Rel is also required for IL-12p40 production by macrophages in response to Corynebacterium parvum, CpG oligodeoxynucleotides, anti-CD40 and low molecular weight hyaluronic acid. However, c-Rel(-/-) mice infected with Toxoplasma gondii produce comparable amounts of IL-12p40 to infected wild-type mice and have an IL-12-dependent mechanism of resistance to this infection. Furthermore, c-Rel was not required for IL-12p40 production by macrophages or dendritic cells in response to soluble Toxoplasma Ag, and neutrophils from c-Rel(-/-) mice contain normal amounts of preformed IL-12p40. Together these studies reveal the presence of c-Rel-dependent pathways critical for IL-12p40 production in response to inflammatory stimuli and demonstrate a novel c-Rel-independent pathway of IL-12p40 production

during toxoplasmosis.

L24 ANSWER 1 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1007741 CAPLUS
DOCUMENT NUMBER: 145:362904
TITLE: Low molecular weight hyaluronic acid and/or salt thereof, method for producing same, and cosmetic preparation and food composition containing same
INVENTOR(S): Yoshida, Takushi
PATENT ASSIGNEE(S): Q.P. Corporation, Japan
SOURCE: PCT Int. Appl., 26pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006101030	A1	20060928	WO 2006-JP305356	20060317
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2006265287	A	20061005	JP 2005-81571	20050322

PRIORITY APPLN. INFO.: JP 2005-81571 A 20050322

AB Disclosed is a low-mol.-weight hyaluronic acid and/or a salt thereof which is obtained by dispersing a hyaluronic acid and/or a salt thereof in an acidic water-containing medium. An aqueous solution containing the low-mol.-weight hyaluronate shows a low viscosity, high L values (≥ 90), and low b values (≤ 5).

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:823424 CAPLUS
DOCUMENT NUMBER: 145:209732
TITLE: Preparation of low-molecular-weight hyaluronic acid as a food supplement
INVENTOR(S): Alkayali, Ahmad
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 7pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006183709	A1	20060817	US 2005-57882	20050215
CA 2536542	A1	20060815	CA 2006-2536542	20060214
EP 1707578	A2	20061004	EP 2006-3092	20060215
EP 1707578	A3	20061018		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU

PRIORITY APPLN. INFO.: US 2005-57882 A 20050215

AB A process for preparing hyaluronic acid primarily as a food supplement which is capable of absorption and assimilation by the human body includes desirable control of both the purity and mol.-weight range of the resulting product. Chicken comb tissue is subjected to one of two processes for extracting, purifying, and controlling the mol. weight range of hyaluronic acid in solution, which is then dried and powdered to a form suitable for human consumption as a food supplement. The resulting hyaluronic acid product can also be used topically in creams or solns. for beneficial treatment of skin conditions, such as dry skin or wrinkling, for example. Thus, dehydrated rooster combs are ground and proteins are extracted into water; sodium chloride and chloroform are used to remove undesirable proteins and hyaluronic acid is precipitated with ethanol and dried; the crude preparation is dissolved in a sodium chloride solution and a protease is used to to produce low-mol.-weight products, which are further purified, dehydrated, and sterilized.

L24 ANSWER 3 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:393793 CAPLUS

DOCUMENT NUMBER: 142:479353

TITLE: Mechanisms Involved in Enhancement of Osteoclast Formation and Function by Low Molecular Weight Hyaluronic Acid

AUTHOR(S): Ariyoshi, Wataru; Takahashi, Tetsu; Kanno, Takahiro; Ichimiya, Hisashi; Takano, Hiroshi; Koseki, Takeyoshi; Nishihara, Tatsuji

CORPORATE SOURCE: Second Department of Oral and Maxillofacial Surgery, School of Dentistry, Kyushu Dental College, Kitakyushu, 803-8580, Japan

SOURCE: Journal of Biological Chemistry (2005), 280(19), 18967-18972
CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular Biology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Hyaluronic acid (HA) is a component of the extracellular matrix that has been shown to play an important role in bone formation, resorption, and mineralization both in vivo and in vitro. We examined the effects of HA at several mol. wts. on osteoclast formation and function induced by RANKL (receptor activator of NF-κB ligand) in a mouse monocyte cell line (RAW 264.7). HA at Mr < 8,000 (low mol. weight HA (LMW-HA)) enhanced tartrate-resistant acid phosphatase-pos. multinucleated cell formation and tartrate-resistant acid phosphatase activity induced by RANKL in a dose-dependent manner, whereas HA at Mr > 900,000 (high mol. weight HA (HMW-HA)) showed no effect on osteoclast differentiation. LMW-HA enhanced pit formation induced by RAW 264.7 cells, whereas HMW-HA did not, and LMW-HA stimulated the expression of RANK (receptor activator of NF-κB) protein in RAW 264.7 cells. In addition, we found that LMW-HA enhanced the levels of c-Src protein and phosphorylation of ERKs and p38 MAPK in RAW 264.7 cells stimulated with RANKL, whereas the p38 MAPK inhibitor SB203580 inhibited RANKL-induced osteoclast differentiation. This enhancement of c-Src and RANK proteins induced by LMW-HA was inhibited by CD44 function-blocking monoclonal antibody. These results indicate that LMW-HA plays an important role in osteoclast differentiation and function through the interaction of RANKL and RANK.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 4 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:826827 CAPLUS
DOCUMENT NUMBER: 142:360482
TITLE: Preparation of low-molecular-weight hyaluronic acid by hydrogen peroxide oxidation
AUTHOR(S): Guo, Xueping; Liu, Aihua; Ge, Baosheng; Liu, Li
CORPORATE SOURCE: Shandong Freda Biochem Co., Ltd., Jinan, Shandong Province, 250014, Peop. Rep. China
SOURCE: Zhongguo Shenghua Yaowu Zazhi (2004), 25(1), 10-12,39
CODEN: ZSYZFP; ISSN: 1005-1678
PUBLISHER: Zhongguo Shenghua Yaowu Zazhi Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Degradation of hyaluronic acid by oxidation with hydrogen peroxide was studied. Degradation rate of hyaluronic acid was increased as the concentration of hydrogen peroxide and the temperature increased. Degradation was much faster under neutral condition than under acidic or alkaline condition. In the proceeding of degradation, the mol. weight and viscosity were decreased fast, and the content of hexuronic acid remained unchanged. The recovery of low-mol.-weight hyaluronic acid with different reactive concns. of hydrogen peroxide was almost the same. The results suggested that hydrogen peroxide oxidation could be used to prepare low-mol.-weight hyaluronic acid.

L24 ANSWER 5 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:358244 CAPLUS
DOCUMENT NUMBER: 141:337386
TITLE: Preparation and characterization of a hydrogel from low-molecular weight hyaluronic acid
AUTHOR(S): Xuejun, X.; Netti, P. A.; Ambrosio, L.; Nicolais, L.; Sannino, A.
CORPORATE SOURCE: Department of Materials and Production Engineering, University of Naples "Federico II", Naples, I-80125, Italy
SOURCE: Journal of Bioactive and Compatible Polymers (2004), 19(1), 5-15
CODEN: JBCPEV; ISSN: 0883-9115
PUBLISHER: Sage Publications Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A relatively low-mol. weight sample of hyaluronic acid (HA) was chemical modified by means of a crosslinking reaction with water-soluble carbodiimide and L-lysine Me ester to form a chemical hydrogel. FT-IR anal. performed on the precursors and on the crosslinked hydrogel indicated the formation of ester bonds between different HA mols. that led to an intermol. crosslinking. Hydrogel swelling kinetics as well as equilibrium sorption properties were evaluated. A swelling ratio of 250 was observed after immersion in distilled water for 7 h. Rheol. measurements by means of a plate-plate rheometer of the crosslinked sample showed non-Newtonian and pseudoplastic behavior, while the uncross-linked HA showed Newtonian behavior and a viscous characteristic. Morphol. anal. of these microstructures by SEM indicated that the freeze-dried crosslinked hydrogel presents a more closed-pore structure and higher d. of pores than the freeze-dried original HA.
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 6 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:951917 CAPLUS
DOCUMENT NUMBER: 138:13592

TITLE: Extraction of low-molecular-weight hyaluronic acid from rooster tissues and food containing it
INVENTOR(S): Kikuchi, Makoto; Arai, Yoshizane
PATENT ASSIGNEE(S): Medicalize K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002360292	A	20021217	JP 2001-176173	20010611
PRIORITY APPLN. INFO.:			JP 2001-176173	20010611

AB Low-mol.-weight hyaluronic acid (I), which can dissolve in water at normal temperature and is useful for cosmetics and health food, is manufactured by mincing dermal layer or s.c. tissues of roosters, heating the mince, preferably in H2O at 100° for 30-60 min, and treating the heated product with conjugated protein- and lipid-degrading enzymes. Also claimed is food containing I thus manufactured Extraction of I from cockscomb was shown.

L24 ANSWER 7 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:888596 CAPLUS
DOCUMENT NUMBER: 137:368571
TITLE: Immunogenic compositions of low molecular weight hyaluronic acid and methods to prevent, treat and diagnose infections and diseases caused by group A and group C streptococci
INVENTOR(S): Michon, Francis; Moore, Samuel; Laude-Sharp, Maryline; Blake, Milan
PATENT ASSIGNEE(S): Baxter International Inc., USA; Baxter Healthcare S.A.
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002092131	A2	20021121	WO 2002-EP5310	20020510
WO 2002092131	A3	20030320		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002192205	A1	20021219	US 2001-853367	20010511
CA 2446555	A1	20021121	CA 2002-2446555	20020510
AU 2002342321	A1	20021125	AU 2002-342321	20020510
EP 1385554	A2	20040204	EP 2002-750926	20020510
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002009562	A	20040330	BR 2002-9562	20020510
HU 200400840	A2	20040728	HU 2004-840	20020510
CN 1525869	A	20040901	CN 2002-813943	20020510

JP 2005508854	T	20050407	JP 2002-589047	20020510
IN 2003DN01840	A	20051216	IN 2003-DN1840	20031107
PRIORITY APPLN. INFO.:			US 2001-853367 A	20010511
			WO 2002-EP5310 W	20020510

AB The present invention provides antigenic compns. and methods for treatment and prevention of infection and disease caused by group A and group C streptococci. In particular, the invention provides low mol. weight hyaluronic acid, low mol. weight hyaluronic acid linked to a carrier and compns. comprising them. The compns. elicit antibodies to low mol. weight hyaluronic acid which are cross-reactive with group A and C streptococci and which are minimally cross-reactive with native hyaluronic acid. The invention is particularly useful for providing both active and passive immunogenic protection for those infected with or at risk infection with group A and group C streptococci. Addnl., the present invention provides methods and compns. useful for diagnosing infections and diseases caused by group A and group C streptococci.

L24 ANSWER 8 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:682786 CAPLUS
DOCUMENT NUMBER: 138:215249
TITLE: Low molecular weight hyaluronic acid prevents oxygen free radical damage to granulation tissue during wound healing
AUTHOR(S): Trabucchi, E.; Pallotta, S.; Morini, M.; Corsi, F.; Franceschini, R.; Casiraghi, A.; Pravettoni, A.; Foschi, D.; Minghetti, P.
CORPORATE SOURCE: Wound Healing Center, Erba Voglio Foundation, Brescia, Italy
SOURCE: International Journal of Tissue Reactions (2002), 24(2), 65-71
CODEN: IJTEDP; ISSN: 0250-0868
PUBLISHER: Bioscience Ediprint Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Hyaluronic acid protects granulation tissue from oxygen free radical damage and stimulates wound healing, but its mol. weight prevents it from permeating the epidermal barrier. A low mol. weight hyaluronic acid preparation is able to permeate the skin, but it is unknown whether or not it retains the scavenging effects of oxygen free radicals in granulation tissue. The authors' expts. were conducted in rats with excisional or incisional wounds. Wound contraction over 11 days and breaking strength on the 5th day were measured. Oxygen free radical production was induced by i.p. administration of 2 different xenobiotics: phenazine methosulfate and zymosan. The wounds were treated topically with low mol. weight hyaluronic acid (0.2%) cream or placebo. In the incisional wound group, the effects of superoxide dismutase were also determined Absolute controls received wounds and placebo but no xenobiotics. Wound healing was significantly slower in the xenobiotic group than in the control groups. These effects were strongly reduced by topical administration of low mol. weight hyaluronic acid (0.2%) cream and in incisional wounds by topically injected superoxide dismutase. Low mol. weight hyaluronic acid is effective as the native compound against oxygen free radicals. Its pharmacol. effects through transdermal administration should be tested in appropriate models.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 9 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:479941 CAPLUS
DOCUMENT NUMBER: 137:52031
TITLE: Cosmetics containing natural moisturizers and low-molecular-weight

hyaluronic acids
INVENTOR(S): Asano, Yumiko
PATENT ASSIGNEE(S): Fancl Corporation, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002179522	A	20020626	JP 2000-381853	20001215

PRIORITY APPLN. INFO.: JP 2000-381853 20001215

AB Cosmetics, which show good skin-moisturizing effect and have no stickiness, contain animal or plant-derived moisturizing substances, low-mol.-weight hyaluronic acid or its salts, and citric acid or its salts. A skin preparation was prepared from 1,3-butylene glycol 2.0, glycerin 8.0, low-mol.-weight Na hyaluronate 1.0, animal tissue-derived mucopolysaccharides, 20.0, placenta extract 28.0, aloe extract 0.02, Na lactate 0.2, Na citrate 0.05, EtOH 1.0%, colorant, antiseptic, and H2O balance.

L24 ANSWER 10 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:689752 CAPLUS
DOCUMENT NUMBER: 136:256886
TITLE: Low-molecular-weight hyaluronic acid induces nuclear factor-κB-dependent resistance against tumor necrosis factor α-mediated liver injury in mice
AUTHOR(S): Wolf, Dominik; Schumann, Jens; Koerber, Kerstin; Kiemer, Alexandra K.; Vollmar, Angelika M.; Sass, Gabriele; Papadopoulos, Thomas; Bang, Renate; Klein, Sabine D.; Brune, Bernhard; Tiegs, Gisa
CORPORATE SOURCE: Institute of Experimental and Clinical Pharmacology and Toxicology, Faculty of Medicine, University of Erlangen-Nurnberg, Erlangen, D-91054, Germany
SOURCE: Hepatology (Philadelphia, PA, United States) (2001), 34(3), 535-547
CODEN: HPTLD9; ISSN: 0270-9139
PUBLISHER: W. B. Saunders Co.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Liver resident NK1.1+ T cells are supposed to play a pivotal role in the onset of inflammatory liver injury in exptl. mouse models such as Con A-induced hepatitis. These cells, expressing the adhesion receptor, CD44, are largely depleted from the liver by a single i.v. injection of low-mol.-weight fragments of hyaluronic acid (LMW-HA). Here, the authors report that LMW-HA pretreatment protected mice from liver injury in several models of T-cell- and macrophage-dependent, tumor necrosis factor α (TNF-α)-mediated inflammatory liver injury, i.e., from liver injury induced by either Con A or Pseudomonas exotoxin A (PEA) or PEA/lipopolysaccharide (LPS). Interestingly, apart from inhibition of cellular adhesion, pretreatment of mice with LMW-HA was also capable of preventing hepatocellular apoptosis and activation of caspase-3 induced by direct administration of recombinant murine (rmu) TNF-α to D-galactosamine (GaIN)-sensitized mice. LMW-HA-induced hepatoprotection could be neutralized by pretreatment with the nuclear factor-κB (NF-κB) inhibitor, pyrrolidine dithiocarbamate (PDTC), demonstrating the involvement of NF-κB in the observed protective mechanism. Indeed, injection of LMW-HA rapidly induced the production of TNF-α by Kupffer cells and the translocation of NF-κB into hepatocellular nuclei. Both LMW-HA-induced TNF-α production and NF-κB translocation were blocked by pretreatment with PDTC. Our findings provide evidence for an unknown mechanism of LMW-HA-dependent protection from inflammatory liver

disease, i.e., induction of TNF-α-and NF-κB-dependent cytoprotective proteins within the target parenchymal liver cells.
REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 11 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:456017 CAPLUS
DOCUMENT NUMBER: 135:277874
TITLE: Network formation of low molecular weight hyaluronic acid derivatives
AUTHOR(S): Borzacchiello, A.; Ambrosio, L.
CORPORATE SOURCE: Institute of Composite Materials Technology-CNR, Interdisciplinary Research Center in Biomaterials (CRIB), University of Naples "Federico II", Naples, 80125, Italy
SOURCE: Journal of Biomaterials Science, Polymer Edition (2001), 12(3), 307-316
CODEN: JBSEEA; ISSN: 0920-5063
PUBLISHER: VSP BV
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The oscillatory and steady shear rheol. properties of the benzyl esters of hyaluronic acid (HA), partially esterified (Hyaff 11p50), at low mol. weight (150 kDa) were evaluated and compared to the properties of HA at the same mol. weight At concns. up to 40 mg cm-3 both Hyaff 11p50 solns. and HA solns., behaved as viscous fluids. At higher concns., HA ester solns. exhibited an elastic response typical of weak gels, whereas HA exhibited a viscous behavior. A solid-like response was also observed by lowering the temperature These results indicate that hyaluronic acid ester solns. can form a weak gel network. The rheol. properties of HA derivs. changed significantly compared to HA solns. The improved elasticity and residence times of these solns. expand the possible applications of hyaluronic acid in the biomedical field.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 12 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:144063 CAPLUS
DOCUMENT NUMBER: 132:148758
TITLE: Cultivating dendritic cells with low molecular weight hyaluronic acid fragments for usage in adoptive immunotherapy
INVENTOR(S): Simon, Jan; Termeer, Christian
PATENT ASSIGNEE(S): Klinikum der Albert-Ludwigs-Universitaet Freiburg, Germany
SOURCE: Ger. Offen., 10 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19839113	A1	20000302	DE 1998-19839113	19980827
WO 2000012122	A2	20000309	WO 1999-EP6280	19990826
WO 2000012122	A3	20000622		
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9957416	A1	20000321	AU 1999-57416	19990826

US 6838086 B1 20050104 US 2001-763794 20010712
PRIORITY APPLN. INFO.: DE 1998-19839113 A 19980827
DE 1998-19853066 A 19981117
WO 1999-EP6280 W 19990826

AB The invention concerns the production of dendritic cells for adoptive immunotherapy in multiple steps including the isolation of mononuclear cells from buffy coat; selection and enrichment of cells carrying the CD14 surface antigen; and initiating irreversible dendritic cell maturation by a culture medium containing hyaluronic acid fragments. Mononuclear cells are isolated using a Ficol d. gradient; CD14 antigen cells are selected using antibodies in conjunction with magnetic cell sorting system (MACS) or FACS. CD14 containing cells are grown on culture medium containing GM-CSF and IL-4. For dendritic cell maturation, hyaluronic acid fragments are used that contain 1-10 aminodisaccharide units of D-glucoronic acid; the N-acetyl-D-glucosamines form β1-3 bonds.

L24 ANSWER 13 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:252871 CAPLUS
DOCUMENT NUMBER: 131:100849
TITLE: The role of low molecular weight hyaluronic acid contained in Wharton's jelly in necrotizing funisitis
AUTHOR(S): Kanayama, Naohiro; Goto, Junko; Terao, Toshihiko
CORPORATE SOURCE: Department of Obstetrics and Gynecology, Hamamatsu University School of Medicine, Hamamatsu, 431-31, Japan
SOURCE: Pediatric Research (1999), 45(4, Pt. 1), 510-514
CODEN: PEREBL; ISSN: 0031-3998
PUBLISHER: Lippincott Williams & Wilkins
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The purpose of this research was to study the changes in the mol. weight of hyaluronic acid in Wharton's jelly altered by necrotizing funisitis. Umbilical cords were collected at delivery from 20 newborns without funisitis, 6 newborns with acute funisitis, and 4 newborns with necrotizing funisitis. Agarose gel electrophoresis of Wharton's jelly was performed to analyze the mol. weight of hyaluronic acid (HA). The authors also investigated the effects of low or high mol. weight HA on the production of interleukin-8 in human umbilical fibroblasts. In Wharton's jelly without funisitis, HA was 1150±280 kDa in preterm newborns, regardless of gestational week at birth, and that in full-term newborns was 1100±200 kDa. When acute funisitis was present, HA was 700±250 kDa, and when necrotizing funisitis was present, HA was 520 ± kD. The mol. weight of HA was significantly below normal in newborns with necrotizing funisitis. Low mol. weight HA was associated with increased levels of IL-8 in the supernatant of cultured human umbilical fibroblasts in a time- and dose-dependent manner. High mol. weight HA did not induce the production of IL-8 in the same cells. Low mol. weight HA has a potent inflammatory action. The conversion from high to low mol. weight HA in Wharton's jelly may be important in the pathophysiol. of necrotizing funisitis.

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 14 OF 35 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:691168 CAPLUS
DOCUMENT NUMBER: 130:61499
TITLE: Production of prostanoids via increased cyclo-oxygenase-2 expression in human amnion cells in response to low molecular weight hyaluronic acid fragment
AUTHOR(S): Kobayashi, Hiroshi; Sun, Guang Wei; Terao, Toshihiko

CORPORATE SOURCE: Department of Obstetrics and Gynecology, Hamamatsu University School of Medicine, Hamamatsu, Shizuoka, 431-3192, Japan
SOURCE: Biochimica et Biophysica Acta, General Subjects (1998), 1425(2), 369-376
CODEN: BBGSB3; ISSN: 0304-4165
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Increased concns. of hyaluronic acid (HA) have been found in serum and at uterine cervix at term. In its native form, HA exists as a high mol. weight (MW) polymer, but during parturition a lower MW HA fragment accumulates. The aim of this study was to investigate the regulatory mechanisms responsible for increased amnion prostanoid production and cyclo-oxygenase (COX) expression in response to HA. Human term amnion cells in culture were exposed to native HA polymer (MW 2.2 + 106) and its fragment (MW 3.5 + 104). We have determined levels of prostanoids, prostaglandins E2 and F2α, in conditioned media using specific immunoassays. Expression of COX-1 and COX-2 was examined with Western blot. Results were analyzed for statistical significance with Mann-Whitney U-test. Human amnion cells treated with HA fragment (100 nmol/L) produced significantly more PGE2 (2.3 (mean) pg/106 cells/24 h) than controls (0.34) or high MW HA-treated cells (1.2). Protein levels of COX-2, but not COX-1, were substantially increased in amnion cells treated with HA fragment. HA fragment-mediated prostanoid production is markedly diminished by pretreatment with indomethacin. Our results indicate that HA fragment, rather than physiol. native HA polymer, induces amnion cell-derived prostanoid production via increased COX-2 expression. COX-2-mediated prostanoid production is likely a key physiol. event in HA fragment-mediated cervical ripening and the labor onset.
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT